

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of

AT&T Petition to Launch a Proceeding)
Concerning the TDM-to-IP Transition)

GN Docket No. 12-353

Petition of the National Telecommunications)
Cooperative Association for a Rulemaking)
to Promote and Sustain the Ongoing)
TDM-to-IP Evolution)

**REPLY COMMENTS OF THE
COMPUTER & COMMUNICATIONS INDUSTRY ASSOCIATION (CCIA)**

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EXECUTIVE SUMMARY

For the past 40 years, CCIA has advocated for open markets, open networks and full and fair competition in the computer, telecommunications and online world. We hereby provide comments to the FCC regarding public interest policy priorities for the transition to IP networks as the dominant telecommunications infrastructure in this country. It is imperative that the FCC continues to promote a competitive landscape for existing and emerging technologies that help our citizens and businesses communicate and innovate.

AT&T has appropriately directed the FCC's attention to the IP transition, but its petition implies that this process is simpler than it actually is, from both a business and a policy standpoint. There are a lot of considerations that the FCC must take into account in this proceeding, including universal service, interconnection and competition, public safety interoperability, NG 9-1-1, privacy, and cybersecurity. CCIA therefore urges the Commission to expedite action on many critical proceedings in these areas that have been pending for years prior to the petitions in this docket. Such actions will create a stronger foundation for decisions on completing the transition to IP networks.

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The Computer & Communications Industry Association (“CCIA”)¹ pursuant to the Federal Communication Commission (“Commission”) December 14, 2012 Public Notice,² files these Reply Comments.

CCIA supports AT&T’s suggestion that the FCC needs to come to grips with the ongoing transition of the nation’s telecommunications networks to IP technology. AT&T is quite right to put the Commission on notice of its plans to sunset its portions of the public switched telephone network (PSTN). There’s no shortage of regulations and policies implicated, and the Commission should focus on practical solutions to related problems already identified in other dockets before taking on new experiments presented in ILEC Petitions. New network technology does not actually change everything with respect to FCC authority and responsibility for telecommunications in the public interest, nor does it necessarily justify more deregulation. American consumers and businesses still expect the FCC to ensure the network reliability, affordability, and accessibility mandated by the Telecommunications Act, even though ubiquitous Internet access connections are now perhaps more highly valued than universal voice dialtone service.

I. Undeniable Change and Progress Toward IP Networks

The migration of most telecommunications traffic to IP technology is well underway. We now have hybrid networks using combinations of all available technologies. IP is becoming more prevalent, while the public switched telephone network (PSTN)’s use of copper wires for

¹ CCIA is an international nonprofit membership organization representing companies in the computer, Internet, information technology, and telecommunications industries. Together, CCIA’s members employ nearly half a million workers and generate approximately a quarter of a trillion dollars in annual revenue. CCIA promotes open markets, open systems, open networks, and full, fair, and open competition in the computer, telecommunications, and Internet industries.

² GN Docket No. 12-353, *Pleading Cycle Established on AT&T and NTCA Petitions*, Public Notice, DA 12-999 (Dec. 14, 2012).

both analog voice (POTS) and digital transmissions is diminishing. However copper loops in the “last mile” are still an integral and critical part of the mix. Progress will continue, and perhaps point to point video is just on the horizon. But today’s popular voice over IP (VOIP) services, like over the top (OTT) streaming video, work only so well over the “best efforts” public Internet. Voice as “just another app” is certainly possible, but not optimal, especially in emergencies. As a result, carriers desiring to upsell customers on “quality of service” (QoS) are deploying their own managed IP networks to maintain PSTN-like quality for voice and cable TV quality for video programming.

Methods of interconnection among networks are also changing in the transition. Unifying all the moving parts for the continued smooth functioning of the public Internet presents a serious challenge. Americans still expect reliable, affordable and ubiquitous telecommunications, even though technology is changing. They still expect some measure of privacy and security as well. Indeed, improvements in technology might reasonably cause us to expect a higher quality of service, better public safety systems, and better accessibility without having to pay extra on a monthly basis. On the other hand, advances in network technology have done nothing to alter the underlying market structure for which today’s FCC telecommunications regulations were crafted.

II. New Technology Does Not Change Everything

It’s true that the very competitive and wondrous ecosystem of online apps, websites and content, as well as smart devices, is brand new in this century. However, the ownership of the underlying critical network infrastructure that American businesses and households depend on for access to all that Internet bounty is much the same as was in the late 1990s: telephone companies and cable TV companies, who have now consolidated to form even more dominant

Internet Access Providers (IAPs). The fact that IAPs are graduating from narrowband to broadband technology, and investing in upgrades without last century's regulated rates or a guaranteed monopoly rate of return, does nothing without sustainable competition, to extinguish their legacy market power. In particular, ILEC IAPs' many thousands of points of interconnection established over the past century allow them to control wholesale chokepoints to other networks.³ Conversion from TDM to IP technology simply will not eliminate the need for core interconnection safeguards.

Convergence of many discrete specialized services including fixed and mobile voice, data, Internet access, and commercial video programming over general purpose IP networks actually increases the leverage of those who are in a position to sell all of the above to businesses and consumers. Even popular music radio services like Pandora are now Internet applications. Data storage in the cloud requires an Internet connection. Everything but the network itself has become an online application. For consumers, IAPs bundle wireline and wireless voice with Internet access or video programming content or three of these or all four, in contracts with big cancellation fees for switching to another provider. Fortunately, telecom and cable IAPs still compete directly with each other for residential customers in the most lucrative markets, but everywhere else, not so much. Satellite broadband is a stand-alone option. Despite much hype, broadband Internet access competition is really quite limited.⁴

Today many Americans are perhaps more dependent on their Internet connections than they ever were on landline voice telephones. Yet broadband networks have not yet reached 19

³ GN Docket No. 12-353, Comments of T-Mobile USA, Inc., at 9 (Jan. 28, 2013) ("Comments of T-Mobile").

⁴ SUSAN CRAWFORD, CAPTIVE AUDIENCE: THE TELECOM INDUSTRY AND MONOPOLY POWER IN THE NEW GILDED AGE (2013).

million Americans geographically,⁵ and for many millions more, available service is simply unaffordable. That's why urban and rural libraries alike are now more crowded than they've ever been. As one independent expert describes it "the fundamental economics of telecom networks – high fixed costs, significant economies of scale and scope, and formidable barriers to entry"⁶ remain unchanged. Basic public interest regulation is essential for anything approaching competitive outcomes in many places for many people.

III. The Telecommunications Act of 1996 Provides Strong Guidance

Fortunately, the Telecom Act of 1996 ("the Act") is technology neutral and contains core statutory principles that can be upheld as we move toward the IP future: universal service, interconnection and competition, consumer protection and public safety. The Act is flexible enough to guide the Commission through transition to IP technology. For example, the universal service provisions of the Act are not limited to specific types of service, but the Act does include a mandate for "advanced" services.⁷ Therefore, transitioning the universal service fund from support for voice services to broadband Internet connections, as the Commission is doing with the Connect America Fund (CAF),⁸ makes perfect sense and should be expedited. Universal service obligations should not simply be terminated in favor of the very limited competitive market forces we find in broadband access. The "Internet ecosystem" as a whole is of no use to any person or enterprise that lacks a network connection. Universal broadband connectivity will require an upgrade of FCC rules for the CAF, and new funding mechanisms as well.

⁵ FCC, Eighth Broadband Progress Report, Aug. 21, 2012, available at <http://www.fcc.gov/reports/eighth-broadband-progress-report>.

⁶ Economics and Technology, Inc., "The End of the PSTN as we know it?", July 2011.

⁷ The Telecommunications Act of 1996, 47 U.S.C. § 706.

⁸ WC Docket No. 10-90, *Connect America Fund* (Nov. 19, 2012).

The network interconnection provisions of the Act are likewise agnostic as to the transmission technology employed by carriers. And interconnection is absolutely essential to competition at the network layers of the Internet for basic telecommunications by wire and radio spectrum. Wireline carriers such as XO Communications serving enterprise customers and new local access entrants like Google in Kansas City are currently among the most aggressive investors in big bandwidth IP deployment. But these are by definition niche market and trial run players in this space. Deployment of competitive last mile facilities even to most business locations is economically cost prohibitive. So innovative new carriers must depend on nondiscriminatory interconnection.

Many large ILECs by contrast are lagging on fiber buildout to small and medium-sized business customers⁹ and at carrier interconnection points or IXPs. And because of their more extensive telecommunications needs, business customers cannot simply “cut the cord” on landline services as some residential customers now choose to do. Businesses rarely find a local cable company that can reliably meet all their broadband needs. At the residential retail level, AT&T’s Uverse and Verizon FIOS are not being expanded substantially or at all to challenge cable companies for residential broadband customers. And Uverse is still largely dependent on copper networks. Both incumbent carriers and cable operators meanwhile have worked with the American Legislative Exchange Council (ALEC) to convince governments in 23 states to prohibit municipal broadband. Perhaps some of the mayors who heard Chairman Genachowski’s

⁹ GN Docket No. 12-353, Comments of Telepacific Communications (Jan. 28, 2013) (“Comments of Telepacific”).

recent call¹⁰ to get on the big bandwidth bandwagon will work to overturn this legal roadblock in their states so they can partner with private companies on fiber networks.

Meanwhile, copper wire infrastructure is still needed in many places for broadband connections to the Internet where there's no fiber built out. AT&T's plans are to bring fiber to only half of the multi-tenant business locations in its territories. The other half will remain dependent on copper infrastructure for landline services. Innovative equipment manufacturers and carriers have found ways, like Ethernet technology, to increase the capacity of copper loops, and the demand for these services is rising.¹¹ But the FCC's lenient copper retirement rules impede the ability of competitive carriers to offer Ethernet at affordable prices.¹² And ILECs' plans are to accelerate copper plant retirement. This further puts the squeeze on both broadband customers and competitive carriers. Therefore the Commission's copper retirement rules should be revisited and updated to prevent loss of economic broadband options.

Likewise, without FCC safeguards, most households and small businesses will have only DSL broadband from their telcos and basic phone service only for as long as the ILEC chooses to maintain its copper plant and offer it. Most will be destined to face a cable company monopoly for landline broadband Internet access. Both telcos and the cable operators will still be free to raise prices at will. This reality presents huge consumer protection challenges for the FCC and state regulators alike.

IV. Competition and Interconnection

The FCC must approach the IP transition with innovative thinking about how to update and modernize its rules for a world of Internet exchange points (IXPs) rather than telephone

¹⁰ "FCC Chairman Genachowski Issues Gigabit City Challenge," January 18, 2013, available at <http://www.fcc.gov/document/fcc-chairman-genachowski-issues-gigabit-city-challenge>

¹¹ Comments of Telepacific at 11.

¹² *Id.* at 12.

company central office switches.¹³ A pro-competitive regulatory framework must remain in place to ensure that all parties exchange IP traffic on reasonable terms.¹⁴ At a minimum, in terms of network interconnection, the FCC should: 1) complete its pending voice interconnection proceeding,¹⁵ 2) continue to exercise its authority under Section 251 to enforce pro-competitive interconnection rules and prevent abuse of traffic exchange at IXPs, 3) update its copper retirement rules as discussed above. The FCC should foster compliance with IP interconnection obligations by codifying those obligations and establishing a simple enforcement mechanism for resolving complaints.¹⁶ The Commission should also prohibit anticompetitive pricing, terms and conditions for special access business broadband connections from AT&T and Verizon.¹⁷

Statutory competition policy in the Telecom Act obligates carriers to interconnect with each other and exchange traffic. Interconnection of IP networks occurs at IXPs, rather than central office switches, but both are “technical feasible” points under the Act, and certainly other locations may be so as well. Unregulated voluntary peering interconnection works well among the relatively few global backbone network providers, which are in fact wholesale “peers,” each a very large carrier in a competitive wholesale backbone market. Competition forces investment by AT&T and others in their backbone networks. However, the peering model works less well for interconnection between backbone providers who also own major local broadband access

¹³ GN Docket No. 12-353, Comments of Sprint Nextel Corporation, at 30 (Jan. 28, 2013) (“Comments of Sprint”).

¹⁴ Comments of T-Mobile at 9.

¹⁵ PS Docket No. 11-82, *In the Matter of The Proposed Extension of Part 4 of the Commission’s Rules Regarding Outage Reporting to Interconnected Voice Over Internet Protocol Service Providers and Broadband Internet Service Providers* (May 13, 2011); see also Comments of Sprint at 27.

¹⁶ Comments of T-Mobile at 11.

¹⁷ WC Docket No. 05-25, RM-10593; *In the Matter of Special Access for Price Cap Local Exchange Carriers. AT&T Corporation Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services*; Report and Order and Further Notice of Proposed Rulemaking (Dec. 11, 2012).

networks, or IAPs, and all other networks, both backbone and local access. Interconnection rules are essential because the largest legacy IAPs, including AT&T, have no incentive to interconnect or peer with other carriers whose customer base is either B2B only, or much smaller as is the case with regional ILECs, CLECs and small cable providers. Absent nondiscriminatory interconnection rules, the dominant legacy carriers are in a position to exploit their terminating access monopoly over massive customer bases and demand payment from other networks.

If competition for broadband access services is desirable, then the FCC should establish default interconnection requirements for the exchange of managed voice IP traffic over the public communications network (PCN). Such interconnection is more complicated than standard voluntary IP peering interconnection.¹⁸ It involves coordination at the session layer of the network (SIP interconnection). While managed IP interconnection can sometimes be negotiated among carriers, dominant carriers are in a position to shift more of the cost burden than is reasonable to the newer market entrants. Access to unbundled network elements (UNEs) and enforcement of other ILEC obligations will still be necessary during and after the evolution to IP based PCN.¹⁹

Finally, the North American Numbering Plan (NANP) must be adapted for an IP world. Americans expect to use both phone numbers and websites/e-mail addresses (domain names/IP addresses) for the foreseeable future, and there's no easy way to converge these separate sets of unique identifiers for IP networks only.

¹⁸ GN Docket No. 12-353, Comments of XO Communications, LLC, at 21 (Jan. 28, 2013) ("Comments of XO"); *see also* GN Docket No. 12-353, Letter from Level 3 Communications, LLC (Feb. 6, 2013).

¹⁹ Comments of XO at 25.

V. Public Safety and Emergency Services

Emergency voice calls via fixed and wireless 911 require both high network reliability and high quality of service. Last summer a freak storm in the mid Atlantic not only caused widespread power outages, but people could not reach 911 either by landline or wireless phones throughout much of the state of Virginia. State and federal investigations revealed that Verizon's PSTN network facilities had deteriorated and not been inspected.²⁰

On the other hand, in the fall of 2012, Hurricane Sandy's power outages in NY and NJ left folks waiting to use the few payphones still connected to the copper network.²¹ In the face of this problematic status quo, transition to Next Generation 911 (NG9-1-1) is perhaps the most important public policy and regulatory challenge constraining action in this docket. Emerging text to 911 services may be very helpful in some cases, but provide no real substitute for a live voice conversation. Likewise, emergency text messages to family members are an option, but such messages are best not left to the public Internet either. Wireless networks and Internet connections, while in many ways superior to POTS, are often more vulnerable to severe weather and power outages than a tried and true dial tone over landlines.

Interoperability of the PSTN and/or the public Internet with First Net, the future mobile network of first responders, presents yet another challenge in the IP transition.

VI. Privacy and Cybersecurity

The FCC must eventually address the question of how customer privacy will be addressed during and after the transition. The definition of "telecommunications" requires that

²⁰ "FCC Chairman Genachowski Announces Action to Strengthen Reliability and Resiliency of 9-11 Communications Networks during Major Disasters," January 10, 2013, available at http://transition.fcc.gov/Daily_Releases/Daily_Business/2013/db0110/DOC-318333A1.pdf; *see also* Mary Pat Flaherty and Joe Stephens, "Verizon 911 failures part of pattern of neglect, state says," WASH. POST, Jan. 17, 2013.

²¹ GN Docket No. 12-353, Comments of Public Knowledge, at 24 (Jan. 28, 2013).

the provider transmit the user's chosen information without changing the content. *See* §153(50) [definition of "telecommunications"]. A telecommunications common carrier has no reason to routinely inspect, or even interact with, subscriber content. A provider of communications service by wire or radio, in fact, is prohibited from disclosing or publishing user-supplied content, except as permitted by 18 U.S.C. Chapter 119. *See* §605(a).²² The specific content being transmitted has no impact on cost or any other network-management consideration, as type of application might for IP networks.

The Act and FCC rules therefore assume that a telecommunications common carrier will not monitor, maintain, store, or record content and will have no subscriber or customer content to use or disclose. That is why the definition of customer proprietary network information (CPNI) in §222(h)(1) does not address content, nor do the Commission's rules.

Internet access providers, however, have different incentives and needs than carriers of only basic voice and data. The relevant definitions assume that an enhanced/information service provider *will* have at least some interaction with customer-supplied content. An information service provider will "generat[e], acquir[e], stor[e], transform[], process[], retriev[e], utilize[e], or mak[e] available information." *See* §153(24). An enhanced service provider will "act on the format, content, code, protocol or similar aspects of the subscriber's transmitted information" and "provide the subscriber additional, different, or restructured information." *See* 47 C.F.R. §64.702(a). Since information services were not regulated under Title II, Congress acted in 1986 to impose requirements relating to the information service (then "enhanced service") equivalents

²² This is the "Wiretap Act." Section 605, however, does not cross-reference 18 U.S.C. Chapter 121 – the Stored Communications Act. When the communication is by radio, §605(a)(6) prohibits providers from using a communication or any information therein contained for his own benefit or for the benefit of another.

of CPNI and then also addressed content by passing the Stored Communications Act (SCA), codified at 18 U.S.C. §§2701-2712.

Congress chose to not impose a broad set of protections for non-content “Customer Records” with regard to electronic communications service (ECS) and remote communications service (RCS) “Customer Records” (*see* §2703(c)(2)(A)-(F)),²³ except with regard to disclosure to the government. An ECS or RCS can freely share customer records with any person other than the government. *See* §2702(c)(2)(6).

The Commission must consider the full consequences of releasing telecommunications carriers, even when functioning as Internet access providers, from all of their Title II obligations. In classifying broadband access as an information service, did the FCC actually intend to throw out basic privacy protections? What would happen to the CPNI rules if AT&T and other ILEC IAPs are no longer telecommunications carriers and therefore not subject to CPNI rules? Might the CPNI rules be rendered entirely moot because no consumer-facing company qualifies as a carrier anymore? The IAPs would not necessarily *ipso facto* become ECSs or RCSs, but if they did, they would be free to use and disclose CPNI – except to the government.

Congress placed §222 in Title II without contemplating that telecommunications services might be removed from common carriage. Would Congress consider allowing IAPs to freely use and disclose CPNI in the same manner it believed appropriate for non-common carriers? Does anyone seriously contend that Congress would give IAPs a green light to be able to freely monitor, maintain, store, record, use and/or disclose subscriber content? Given the limited competitive choices for broadband Internet access discussed in Sections II-IV above, restrictions

²³ While different terms are used, SCA “Customer Records” are very similar to CPNI. *Compare* 18 U.S.C. §2703(c)(2)(A)-(F) *with* 47 U.S.C. §222(h)(1) and Rule 64.2003(a), (b), (d), (m) and (q).

on IAP access to content and disclosure of CPNI are necessary for consumer protection.

Removing them would not serve the public interest. These restrictions are necessary to ensure that IAP practices are reasonable and not discriminatory.

Nor can the Commission “fix” the problem by requiring all non-carriers to abide by the CPNI rules. Congress already made the requisite policy choices on the scope of protections customers of a non-telecommunications carrier ESP that is also an ECS or RCS should receive with regard to customer records and content. The Commission does not have the power to impose new obligations and restrictions above those imposed by Congress on ECS and RCS. The only real solution for the Commission may be to reclassify broadband Internet access as a telecommunications service. This may be one reason why AT&T is so adamant that the Commission close its so-called “Third Way” proceeding concerning classification of broadband Internet access.

The Commission should not relieve ILEC IAPs of its their CPNI obligations, but that would be a result of granting AT&T’s petition. Moreover, the future of the U.S. postal system, as a separate option for secure private communications, now faces new uncertainty as well.

Meanwhile, Congress is in the process of considering changes to the Electronic Communications Privacy Act (ECPA)²⁴ that will bring it up to date so it realistically deals with today’s world of nearly infinite e-mail storage, remote cloud services/data storage, and geo-location information data generated 24/7 by personal mobile devices. On this subject, Congress must act first. To its credit, according to Politico, Verizon already requires a warrant before providing government access to e-mail content.

²⁴ The ECPA is the amalgamation of the Wiretap Act and the Stored Communications Act.

On a broader level, given the increasing threat of network cyberattacks, it would be appropriate to consider the role ILEC network facilities play as critical network infrastructure in terms of U.S. national security. Could releasing Internet access providers from obligations to maintain their networks as carriers of last resort lead to increased vulnerability for public utilities and transportation systems? Interdependency among infrastructures is widely acknowledged. Cybersecurity protections for telecommunications are included in a February 12, 2013 Executive Order from the White House as well as in serious pending legislative initiatives.

CONCLUSION

For the many diverse reasons described above, CCIA respectfully requests that the Commission deny the petition as filed by AT&T. Its proposals would disproportionately protect the interests of large ILECs, and defeat the FCC's mission of promoting ubiquitous affordable broadband access, public safety, competition, innovation, and investment in broadband Internet infrastructure in America. The most important priorities for the FCC Wireline Competition Bureau now should be to complete its pending voice interconnection proceeding, to advance competitive IP interconnection to the next level, update FCC copper retirement rules, reform special access, and work collaboratively with the Wireless Bureau on the IP transition which is clearly upon us.

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